

Introduction to Feature Issue: Colonial Science in Former Japanese Imperial Universities

Togo Tsukahara

Published online: 15 March 2008
© National Science Council, Taiwan 2008

Japanese Imperialism and Science as an Historical Subject

This feature issue deals with a historical analysis of the scientific practices in and around the former Japanese colonial Universities. In relation to techno-science/medicine in East Asia, the historical significance of Japanese colonialism was a question which has been pondered at length but which has not been subjected to full-scale investigation until recently. Except for a few medical histories and histories of technology by economic historians, the history of science in the Japanese colonies was mostly a neglected field. However, from this field, we will shed new lights on some interesting issues. Such as: how the Japanese exploited the manpower and natural resources of neighboring Asian countries in terms of techno-science, and how the colonized accepted and actually developed techno-science on their own. The continuity and discontinuity of Japan's colonial experience is also an issue to be explored, in terms of whether or not there is any colonial legacy of the Great East Asian Co-Prosperity Sphere, as claimed by the Japanese.

Difficulties: Post-war Hostility to the Japanese and the Difficulty of the Cold War

In the immediate aftermath of Japanese Imperialism, the responsibility of war-time leaders was placed high on the political agenda, and compensation for Japan's war victims was at stake. The dominant mentality was hostility toward Japanese violence, and any analysis from the viewpoint of history of science/technology was mostly underrated and often neglected. Damage caused by Japanese aggression was the primary concern during this period. Only sparse attention was paid to Japan's colonial techno-scientific legacy, yet the transfer of Japan's techno-scientific infrastructure

T. Tsukahara (✉)
Kobe University, Kobe, Japan
e-mail: byz06433@nifty.com

remained necessary for the development of the newly-established but divided region. The social impact of techno-science and medicine brought about in the period of the Japanese expansion was not fully analyzed; the variety of local reactions and adaptations to it, and the histories of techno-science and medicine in the region, were therefore not fully contextualized with regard to Japanese colonialism.

In the ensuing period of the Cold War, historical views on Japanese colonialism were ideologically distorted, and polarized in an over-politicized manner. There was a deep gap between the left-wing historians and the conservative liberals, namely between the pro-socialists and the pro-Americans.¹ Pro-American historiography partly coincided with the nationalistic view, claiming justification of Japan's Imperialism and its contribution to the modernization of the colonies.² During this period, analysis of history of science from the viewpoint of Imperialism was usually considered to be biased, to be made as part of the oppositional propaganda against American Capitalist Imperialism.

Also during this period, while sporadic personal memories of colonial experiences were published, a number of alumni of the old colonial schools accumulated nostalgic bulletins. However, the history of techno-science in the Japanese colonies was not focused upon as a serious historical issue. Japanese colonial science was not an accepted academic topic among historians of science in Korea, Taiwan and Japan during the Cold War period in East Asia.

Democratization and the Emergence of East Asian STS Communities

After the Cold War, however, this situation gradually changed, and we are less restricted vis-à-vis the socialist/capitalist dichotomy. An important event around the end of the Cold War in East Asia was the successful democratization of South Korea and Taiwan in the late 1980s. We then began enjoying a slightly greater degree of freedom of speech and exchange of ideas. The post-Cold War and post-democratization elements constitute our current post-colonial framework in East Asian STS.

Since then, East Asian STS scholars have started to organize research communication platforms with each other.³ We have discussed a number of topics, and have analyzed cultural differences in understanding nature and the human body, as well as the relationship between them, and also the social tensions between science and religion, technology and state, medicine and institutions.⁴ We tried to explain the techno-scientific characteristics of each community, the varying but

¹Modernist conservative historiography corresponded to the American anti-Communist policy towards Japan, and that facilitated Japan's collaboration to wage the Korean War and the Vietnamese War.

²The concept of colonial modernization is not necessarily taken for granted in viewing the history of science in Japan's colonies. I will discuss this concept later.

³This was mainly through conferences for the East Asian STS network, organized in the following order: July 2000 Beijing 北京; May 2001 Seoul; January 2002 Kobe 神戸; October 2003 Taipei 台北; December 2004 Seoul; September 2005 Shanyang 瀋陽; 2006 (January 2007) Kobe.

⁴This was a process of mutual education that we learned from each other; now, we have a deeper mutual understanding of East Asian science, technology and medicine. This process of communication in East Asian STS was successful, and has finally led us to together inaugurate this journal.

similar structure in the economic and political applications of techno-science, and the transitional nature of medical institutions in different communities and social settings.⁵ We also now have easier access to each other's source material.

Japanese Imperialism as a Topic for History of Science and STS

As a consequence of such East Asian STS exchanges, some of us have come to realize the importance of Japanese Imperialism and techno-science in East Asia, particularly its implications for the introduction and spread of modern Western science, technology and medicine. The authors publishing on this issue soon recognized the necessity of organizing a systematic investigation, both from the colonizers' and the colonized's perspectives. It was 2004 when we started preliminary research planning on Japanese colonial sciences, supported by the Japanese Society for the Promotion of Science (JSPS). After successful cooperation among East Asian STS colleagues, we began drafting the STS research project on the history of science at Japan's Imperial University in the former colonies in 2005.⁶ We have already held several international workshops and symposia on this theme.⁷ The papers published on this issue are a part of the results from this project.

University as the Focal Point of Scientific Practice: Japan's Imperial University

Based on these diverse approaches, we decided to take an institutional approach to history of science as an axis for the whole research project, in order to illustrate

⁵Regarding the concept of East Asia as a regional entity, we are trying to avoid any form of cultural essentialism or any claim of cultural dominance in the region. We took it for granted that we have some shared cultural elements, such as a common origin of writing language and use of Chinese characters, Confucianism and Buddhism, the culture of eating rice with chop-sticks [although we are very much different from each other as in the Chinese cultural area (long and cut edge), Korean peninsula (metal, thin and short) and most of the Japanese territories (short and sharp topped)]. However, these can only be viewed as historically constructed and socially instituted processes. We consider that those cultural elements can always offer an analytical framework for the relationship to science, technology and medicine: for example, we can compare tension between Confucianism and science in nineteenth-century China, Korea and Japan, different degrees of nationalism and/or Christianity, and acceptance of Western medicine. We do not assume any essential East Asian-ness as such; neither do we adopt any presumed national/cultural identities.

⁶Togo Tsukahara, Kobe University, is the representative of the project. For the planning, see 塚原東吾 (Togo Tsukahara), 『科学と帝国主義：日本植民地の帝国大学の科学史 (Science and Empires: History of science at Japan's Colonial Imperial Universities)』、皓星社 (Koseisha Publ.), 2006.

⁷June 2005: Symposium on the Japanese Atomic Bomb Development Related Research in the Colonies, at the History of Chemistry Annual Meeting, Kobe University; November 2005: Workshop on the Historical Significance of the Faculty of Science and Engineering of Keijo Imperial University, Waseda Univ., Tokyo; April 2006: Workshop on the History of Science at Taihoku Imperial University, Taipei, Taiwan; January 2007: Symposium on Japanese Colonial Science, at the 7th EASTS (East Asian STS Network Conference; not affiliated with this journal, EASTS) Conference, Kobe; July 2007: Workshop on Taihoku Imperial University and National Taiwan University, Continuity and Discontinuity, Kobe; November 2007: Workshop on Keijo Imperial University, Medicine and Sciences, Waseda and Aoyama Universities, Tokyo.

the history of Japanese colonial science. We focus on colonial universities established by the Japanese as places for science and its institutional base. From the viewpoint of STS, the university can also be seen as a connecting place (trading zone) between science and society. The Japanese established Taihoku (1828) and Keijo (1826) Imperial Universities in the former Japanese colonies of Taiwan and Korea, respectively. They are considered suitable for the analysis and investigation of Japan's colonial science. We see those universities as places for interface between science and society, and also between the colonizers and the colonized. We therefore opted to focus on scientific practice performed in and around these former Japanese Imperial Universities, and expected this to yield new aspects of colonial science.

These institutions were uniquely Japanese, as they were included in part of the nine Imperial University system; each university has its own mission and character. The purposes for the establishment of Taihoku and Keijo Imperial Universities were "colonial": production of highly educated personnel for colonial management, and techno-scientific practice, promotion of industry and economies, and exploration and exploitation of natural resources in and beyond the colonies. Taihoku Imperial University was assumed to be a stepping stone for the southern frontier, while Keijo Imperial University was expected to carry out research for Japan's further advancement to Manchuria and the Continent.

So far, we only have access to sporadic memories and dispersed works on particular subjects, and no systematic and full scale analysis has appeared. Our aim is to yield a much closer view and a thorough analysis on these universities, to demonstrate their role and functions in the history of techno-science in the region.

On Colonial Modernity within the History of Science

I would like to note briefly the problem that always emerges in relation to colonial history: this is the issue of the relationship between colonialism and modernization. Recently, some economic historians in Korea have proposed Japan's "positive" role in colonization, saying that Japanese colonization contributed to the modernization of the Korean economy and to industrialization. It is no wonder that such an unsophisticated view has fueled an already fiercely exchanged dispute between the left and the conservatives. On its surface, it seems acceptable that industrial technology, the education system, infrastructure and the medical institutions of social hygiene were mostly brought by the Japanese colonizers in the area, mainly in order to carry on a project of Japanese colonial management. However, it is a truism to say that colonization brought modernity, because colonialism is a part of modernity, and such claims were often embedded in the political motivation for the justification of colonialism. Moreover, modernization itself is no longer a generally accepted historical course, and we need to differentiate phases of colonialism and modernism. Therefore, we need to closely examine the way in which modernization took place within the colonial setting, and when and where those modern elements functioned to transform the socio-political institutions of the colonized. Modernism is not simple, nor is it a single concept of generally positive value for the course of history; thus, it is "colonial

modernity” that we need to analyze within the Japanese colonial context, and how this particular modernity emerged in specific settings.

In the name of science and technology/medicine, we do not intend at all to justify Japanese Imperialism and its role by emphasizing its contribution to the modernization and industrialization of East Asia. Such a discourse can be understood as a typical example for supporting “colonial modernization”, and we should avoid this. In the history of science, such historiography was for a long time dismissed as a simplistic glorification of the past, denounced as “Whig” historiography of the triumphalism of science. Self-satisfied justification of colonialism is often derived from the Enlightenment view on techno-science, and such justification for colonial history would not be at all accountable.

The Three Articles in this Special Issue

In this feature issue, we include three articles.⁸ Boumsoung Kim, who studied the historical evolution of earth sciences in Japan (Kim 2007), contributes an article on Japanese Seismology in Taiwan, and contextualizes its role in the Japanese knowledge production system in the colonies. Against the background of the global deployment of seismology, he discusses seismology in the Japanese empire, because Japan had to deal with the natural as well as political hazards that might be caused by earthquakes. According to Kim’s argument, Japanese knowledge of earthquakes can be characterized as a “tool-box” of the empire, in order to control the physical and political environment in the colony. He also argues that seismicity is at the same time a local and global phenomenon, because seismological investigations also moved across borders and interacted with local and global contexts. In his argument, we are able to see an illustration how the discipline of seismology connected the interface of the center/periphery relationship of Japan’s empire.

Akihisa Setoguchi discusses control of insect vectors in the Japanese Empire, with special reference to the aspect of transformation of the Colonial/Metropolitan Environment. He examines the process of the establishment of insect pest control for preventing disease transmission in late nineteenth-century Japan, which was modeled after the establishment of tropical medicine in Great Britain. As Setoguchi demonstrates, the control of insects became a social agenda in Japan after 1920s, and the extermination of the mosquito vectors of malaria was placed high on the political agenda in colonial Taiwan. At the same time, in the big cities of the Japanese mainland, mass mobilization took place for the extermination of flies. Setoguchi demonstrates the relationship between the events in mainland cities and colonies, and how the scientific framework of the colonial and metropolitan context were related, as well as how parasitologists, entomologists, and bacteriologists took part in the research of insect vectors both on the mainland and in the colonies. The mobilization of scientists during the Asia Pacific War is also examined, including

⁸ All three papers were preliminarily given at the “Symposium on Historical and Sociological Studies of Science and Technology Concerning Taipei Imperial University,” held at National Taiwan University on 29 April 2006. All three first authors were once colleagues of the JSPS post-doctoral research fellow at Tsukahara’s laboratory, Kobe University.

how it changed the framework of insect-borne diseases. Setoguchi illustrates a close interface between the colonies and the center in terms of science.

Masumi Zaiki and Togo Tsukahara outline some characteristics of meteorology at Taihoku Imperial University, on the southern colonial frontier of Japan's Empire, through the works of Kazuo Ogasawara at Taihoku Imperial University. In this paper, the establishment of Japan's overseas meteorological network and the corresponding institutionalization of meteorology in that period are reviewed, and Ogasawara's academic works are analyzed. The authors show how a pure scientist shifted to colonial management, and finally justified Japan's expansion. Ogasawara's work on tropical climate and interpretation of Huntingtonian environmental determinism are also discussed in order to illustrate one aspect of Japan's colonial science, its syncretic nature and pragmatism.

All three articles are about the historical investigation of colonial sciences, and try to shed light on the institutional base of Taihoku Imperial University in order to clarify how scientific practice was institutionalized within the academic system. In other words, through these papers, we hope to illustrate how the exploitation of natural and human resources at the hands of colonial scientists was related to academic research in universities, and how it affected the whole system of knowledge production by the Japanese, and how it effected changing relationships between science and society, as well as the development of science in East Asia.

Reference

- Kim, B. (2007). *Meiji Taisho no Nihon no Jishingaku: Rokaru Saiensu wo Koete [Beyond local science: The evolution of Japanese seismology during the Meiji and the Taisho eras]*, Tokyo: University of Tokyo Press (in Japanese).